Index to Volume 33

© 1971 by National Association of Biology Teachers

The index has three parts: *subjects* (p. 565-566), *titles* (p. 566-573), and *authors* (p. 574-576). Alphabetizing is letter-by-letter (not word-by-word); for example, "Educational" precedes "Education theory."

SUBJECTS

• Everything in volume 33 of the journal is covered except book reviews and filler items.

This is a *multiple* index; that is, an item may be indexed in two or more places, so as to insure access. "See also" takes you to closely related matters. And there are several *scope* entries: "Biology subjects," "Courses." "Equipment," "Experiments," "Projects."

Entries are keyed to sections of the TITLE index, as follows: **A**, articles; **R**, reports; **D**, Devil's Advocate; **L**, letters to the editor, and **E**, editorials. The number (one or more behind a key letter) tells the issue (no.) and page in the journal. You may go direct to the page, of course; or you may consult the title index to discover whether the item is the one you are seeking.

Abstracts of journals A 5:289
Accountability E 8:450
Action (political, social): see Social biology, Society
Advanced placement E 7:386
American Biology Teacher (policy) L 5:300, E 6:322, 7:386. See also Writing
Animals: see Introduced species, Living organisms in the classroom
Anthropology and biology A 5:280
Apparatus: see Equipment
Attitude changes A 7:401
Audiotutorial method A 2:103, 7:409, 8:480, R 9:549. See also Independent study
Audiovisuals A 1:29, R 2:106, 6:357, R 9:552.
See also next entry
"Auditioning audiovisuals" (department) 2:113, 6:365
Beer-can project R 5:293
Behavior A 3:167, 8:472, R 7:429
Behavioral objectives A 1:38, 4:220, 4:228, 7:401. See also Curriculum planning and assessment
Biochemistry A 8:461
Biological Abstracts A 5:289
Biological Sciences Curriculum Study A 4:214, 5:277, 7:401, 8:494, 9:546
Biology as a science A 1:15, 4:205, 4:208, 7:397, 7:405. See also Science
Biology history A 6:345, 8:461
Biology subjects: see Biochemistry, Cell biology, Ecology, Embryology, Environmental education, Ethology, Eugenics, Evolution, Genetics, Human ecology, Marine biology, Microbiology, Molecular biology, Nursing education, Radiation science, Social biology. See also Courses
Biology teachers and teaching: see Teachers, Teaching methods
Bioresearch Index A 5:289
Biosciences Information Service A 5:289
Biostatistics: see Statistical methods
Book reviews disputed L 4:241
Bottles (disposable) R 9:554
Boussingault, J.-P. A 8:461
Breukelman, John R 2:106
BSCS: see Biological Sciences Curriculum Study
Capitalism D 9:555
Carcinogenesis A 6:348
Cell biology A 7:424, 7:427, R 7:430, D 2:111. See also Microbiology and microorganisms
Cell-counting A 7:427
Chick A 8:472, R 6:356
Christmas tree disposal R 9:549
Chromosome squashes A 7:424
Community colleges A 3:165, 4:228. See also Two-year colleges
Community involvement: see Projects, Society
Computers A 9:526
Concept-formation A 7:405
Conservation education A 6:339. See also Environmental education
Contributors (suggestions for): see Writing
Constructs of knowledge A 4:205, L 6:363
Correction 3:179 (Lee–Steiner article)
Courses: Advanced biology R 6:357, Conservation education A 6:339, Ecology A 1:22, 8:484, Environmental education A 6:342, 4:220, Ethology A 3:167, R 7:429, General biology A 4:228, 7:412, Human ecology A 4:214, R 5:294, Independent study A 7:416, Living organisms A 7:412, Marine biology A 5:282, Mendelism R 7:430, Nursing education A 2:103, Population A 1:26, Primate behavior A 3:167, Radiation science A 5:273, Social biology A 4:208, 4:214, 4:228, R 6:357, Water pollution A 4:211. See also Curriculum planning and assessment
Creationism A 9:535, L 1:49-50, 2:112, 300-303, 6:362, E 6:322
Crown-gall disease A 6:348
Curriculum planning and assessment A 1:22, 1:33, 4:208, 4:210, 4:214, 4:220, 4:228, R 6:355. See also Courses, Teaching methods
Curriculum Resource Materials A 5:239
Demonstrations: see Experiments
Development (embryology) R 6:356
Diatoms A 2:98
Discovering Science in the Elementary School L 4:241
DNA "theory" A 6:335, D 2:111
Dogmatism L 9:55
Drawings (laboratory) A 7:419
Drosophila R 3:176
Ecology A 1:22, 8:484. See also Environmental education, Hay infusions, Human ecology, Mosses, Population, Social biology, Tide pool transect
Educational-voucher plan L 5:303, E 1:2
Education theory A 1:15, 1:18, 2:79, L 3:179, 5:303, E 1:2, 2:66, 3:130, 4:194, 7:386. See also Curriculum planning and assessment, Inter-disciplinary education, Teaching methods, Values in science and science-teaching
Embryology R 6:356
Enhancement effect R 1:51
Environmental chamber R 8:497
Environmental education A 1:15, 1:18, 4:214, 4:220, R 2:106, 2:107, D 9:555. See also Human ecology, Pollution, Social biology
Equipment: Behavior tests A 8:472, Bottles R 9:554, Chick-embryo observation R 6:356, Environmental chamber R 8:497, Field notebook R 9:550, Insulin-molecule model A 1:46, Radiation detection A 5:273, Respirometer A 4:232, 9:542, R 2:107, Shaker R 3:175, Slide-rack collector R 9:551, Television R 9:552, Thermometer guard R 5:295, Tissue-grinder R 2:108, Transparencies R 6:357. See also Audiotutorial method, Audiovisuals
ERIC R 2:107
Ethology R 7:429
Eugenics A 5:265
Evaluation (testing) A 2:86 (bibliography)
Evolution A 6:335, 9:535, L 1:49-50, 2:112, 5:300-303, 6:362, E 6:322
Experiments: Behavior A 8:472, Cell-counting A 7:427, Chick embryo R 6:356, Chromosome squashes A 7:424, Crown gall disease (carcinogenesis) A 6:348, Diatoms A 2:98, Enhancement effect R 1:51, Grafting in herbaceous stems A 9:532, Hay infusions A 2:98, Koch's postulates R 3:174, Lacewing A 7:421, Mosses A 2:100, Mushrooms A 2:90, Radiation, A 5:273, Sea urchin

A 9:539, Selection A 1:43, Slime molds R 6:359, Spirometry A 4:232, R 2:107, *Tubifex* A 6:351, Vinegar eel A 4:237
Field biology: see Ecology, Environmental education, Marine biology
Field-note system R 9:550
Film-making A 1:29
Films: see Audiovisuals
Flexible scheduling A 7:409
Fruit flies R 3:176, 9:554
Genetics A 1:43, 5:265, 6:335, R 7:430. See also Selection
Graduation "goal" E 2:66
Grafting in herbaceous stems A 9:532
Great men in science A 6:345
Grid map R 9:550
Guidelines and Standards . . . R 9:553
Hay infusions A 2:94
Herps skeletons R 9:554
History of biology: see Biology history
Honor society R 6:358
Human ecology A 4:214, 5:280, 7:414, R 5:294. See also Social biology
-ic or -ical D 2:110
Immobilizing organisms R 3:176
Independent study A 5:275, 7:409, 7:416, 8:489
Indexes of journals A 5:289
Individualized instruction A 5:275, 7:409, 7:416, 8:489
Inquiry: see Behavioral objectives, Curriculum planning and assessment
Institutes A 4:211, 4:214, 5:270, 9:546, R 5:292
Insulin molecule A 1:46
Intellectual pollution D 4:239
Interdisciplinary education A 1:15, 1:18, D 9:555, L 9:556, E 3:130
Introduced species A 5:286
Introductory Physical Science A 8:494
Investigations: see Experiments
Koch's postulates R 3:174
Laboratory: see Equipment, Experiments, Drawing, Immobilizing organisms
Lacewing A 7:421
LaMotte Chemical Products Co. handbooks L 4:241
Landscaping project R 3:173
Library (resources, use) A 5:289, R 3:173, 9:549. See also Audiotutorial method
Living organisms in the classroom A 7:412 See also Experiments, Mealworm, Microbiology and microorganisms
Marine biology A 5:282
Mars A 9:521
Mealworm A 8:472, R 5:293
Meiosis R 7:430
Mendelism R 7:430
Methods: see Science (methods), Teaching methods
Metric system R 7:429
Microbiology and microorganisms A 2:94, 2:98, 2:100, R 3:174, 3:176. See also Cell biology
Microprojection R 9:552
Minicourses A 8:489
Mini-lab R 9:549
Models (physical): see Equipment
Molecular biology A 1:46, 6:335, D 2:111
Morality of science D 3:177
Mosses A 2:100
Multidisciplinary education A 1:15, 1:18, E 3:130
Mushrooms A 2:90
National Association of Biology Teachers R 6:355, L 3:179. See also *American Biology Teacher*
National High School Biology Honor Society R 6:358
National Science Foundation A 5:270, R 5:292, E 5:258
National Science Teachers Association A 4:214
National Task Force of Two-Year-College Biologists: see Two-year colleges
Natural selection: see Selection
Nitrogen cycle A 8:461
Nursing education A 2:103
Objectives: see Behavioral objectives
Oceanographic technician A 9:528
"Ode to Suki" L 9:556
Palmer, Ephraim Laurence R 3:172
Paradigms in science A 6:345
Pesticides A 3:155. See also Environmental education, Pollution
Plants: see Introduced species, Living organisms in the classroom
Pollution A 3:115, 4:211, 6:342, 6:351, R 8:498, D 4:239. See also Environmental education
Population (ecology, control) A 1:26, 1:22, 3:145, 3:149, 5:265. See also Human ecology, Social biology
Primates A 3:167
Projects (school–community): Beer cans R 5:293, Earth Day 6:339, Ecology 6:357, Landscaping R 3:173, Living organisms in the classroom A 7:412, Tree-mendous idea R 9:549, Urban encroachment 6:342. See also Experiments
Radiation science A 5:273, R 3:176
Respirometer A 4:232, 9:542, R 2:107
RNA D 2:111
Scheduling A 7:409
Science (method, philosophy) A 4:205, 6:331, 6:345, 7:405, 9:535, R 6:355, D 2:111, 3:177, L 6:363, E 6:322
Science Curriculum Improvement Study A 1:22
Science fairs D 2:110, L 6:361
Science teachers and teaching: see Teachers, Teaching methods
Sea urchin A 9:539
Selection A 1:43. See also Genetics, Evolution
Shaker R 3:175
Skeletons (preparation) R 9:554
Slide-rack collector R 9:551
Slime molds R 6:359
Social biology A 1:29, 4:208, 4:214, 5:280, 7:397, 7:414. See also Human ecology, Population, Society
Society A 2:79,4:208, 7:397, R 8:498
Special creation: see Creationism
Species pollution A 5:286
Spirometry A 4:232, R 2:107
Statistical methods A 1:43, 5:282, 6:351, 7:427
Style: see Writing
Succession: see Hay infusion
Summer Science Training Program R 5:292
Teachers (attitudes, needs, training) A 1:38, 3:161, 3:163, 4:210, 4:226, 5:270, 9:546, R 5:295, 9:553, D 4:239, 5:297, D 9:555. See also Institutes
Teaching methods A 1:38, 2:79, 6:331, 7:401, 7:419, 8:480, 8:489, 9:546, R 6:355. See also Curriculum planning and assessment
Technology: see Science, Social biology
Television R 9:552
Testing A 2:86 (bibliography)
Theology and biology: see Creationism
Theory (in science): see Science
Thermometer guard R 5:295
Thread of life D 2:110
Tide pool transect A 5:282
Tissue-grinder R 2:108
Transparencies R 6:357
Tubifex A 6:351
Two-year colleges A 3:161, 3:163, 4:226. See also Community colleges
Ultraviolet light R 3:176
Urban encroachment A 6:342
Values in science and science-teaching A 1:15, 1:18, 6:331, 7:397, D 3:177, 5:297, L 3:179, E 6:322
Vinegar eel A 4:237
Vortex shaker R 3:175
Voucher plan L 5:303, E 1:2
Water (analysis, pollution) A 4:211, 6:351
Woman power E 9:514
Writing R 7:431, D 2:110. See also, in any issue, "Suggestions for Contributors"

TITLES

• The sections, in order, are articles (A), reports (R), Devil's Advocate (D), letters to the editor (L), editorials (E) and book reviews.

Each number tells the issue (no.) and page in the journal. The numbers are consecutive.

"A," "An," and "The" are dropped from titles; that is, a title begins with its first substantive word.

A—Articles

1:15 Environmental education: the whole man revisited, by Edward J. Kormondy
1:18 Environmental education as liberation, by Donald Stotler
1:22 Ecology and children, by Chester A. Lawson
1:26 Learning about population dynamics, by Lawrence Nilson and Nancy Dyar
1:29 Film series on social biology, by Erik Cripps
1:33 Curriculum reform at Ball State University, by Jerry J. Nisbet and Thomas R. Mertens
1:38 Systems model for science-teacher supervision, by J. J. Koran, Jr.
1:43 Demonstrating the effects of selection, by Jamie E. Thomerson
1:46 Inexpensive model of the insulin molecule, by John H. Olive
2:79 Teaching biology in the 1970s, by Addison E. Lee

2:86 Classroom testing in biology: an annotated bibliography (II), by Hulda Grobman
2:91 Experimental mushroom-growing, by David J. Holden and Stephen J. Wallner
2:94 Ecologic succession in hay infusions: search for a one-lab presentation, by Janet Lotz and Thomas R. Mertens
2:98 Diatoms, the neglected organisms, by C. L. Christensen
2:100 Microfauna of moss habitats, by R. M. Sayre and Linda K. Brunson
2:103 Motivating student nurses to learn life science, by Dean S. Mentzer
3:145 Human multitude: forces in the rising tide, by Bentley Glass
3:149 Population crisis, by Walter E. Howard
3:155 Monitoring and dynamics of persistent pesticides, by Josephine M. Komiak
3:161 Goals of the task force of two-year-college biologists, by Evelyn M. Hurlburt
3:163 Some attributes of two-year-college biologists, by Joan G. Creager and Elwood B. Ehrle
3:165 Community college programs in the life sciences, by Herbert J. Mason
3:167 Behavior of primates: a unit for grades 4 to 6, by Roberta M. Bermant and Gordon Bermant
4:205 Kinds of constructs in biologic knowledge, by Ralph W. Lewis
4:208 Biology and society: a curriculum proposal, by Warren P. von Blum
4:211 Teachers and students write a curriculum on water pollution, by William H. Schlesinger
4:214 Role of secondary education in solving environmental problems, by Haven Kolb
4:220 Environmental education in the K-12 span, by LeVon Balzer
4:226 Two-year-college biologist and his academic environment, by Stanley E. Gunstream
4:228 Proposals for general biology in the community college, by Richard Blazier
4:232 Spirometry: use and construction of a simple classroom device, by Gerald C. Llewellyn
4:237 Culturing and using the vinegar eel, by Donald F. Galen
5:265 Human multitude: how many is enough?, by Bentley Glass
5:270 National science foundation support of teachers education in biology, by William H. Adams
5:273 Radiation science in a two-year-college, by Evelyn M. Hurlburt
5:277 Individualized *vs.* group teaching of BSCS biology, by Harry F. Fulton
5:280 Beware! you might just like it where you are, by Millard C. Davis
5:282 Tide pool transect, by William B. Nutting, Robert Zottoli, and Alton H. Gustafson
5:286 Species pollution, by Darrell D. Young
5:289 Biology abstracts and indexes, by Nancy E. Stees
6:331 Scientific revolution in science teaching, by David R. Stronck
6:335 Doubts about the modern synthetic theory of evolution, by Frank B. Salisbury
6:339 Conservation education in an Illinois high school, by Raymond Bruzan
6:342 Studying the impact of urban encroachment, by James R. Howard, III
6:345 Great men, paradigms, and scientific revolutions, by John M. Berry, Jr.
6:348 Crown gall disease: model of carcinogenesis, by Floyd M. Grimm, III, and Donald Huisingh
6:351 Biostatistical analysis of *Tubifex* behavior in oxygen-poor water, by Glenn W. Gill
7:397 Biology as a study of man and society, by Paul DeHart Hurd
7:401 Teaching for attitude changes, by Samuel H. Throm, Jr., and Daisy E. Arredondo
7:405 Concepts and concept-formation in the teaching of biology, by John J. Koran, Jr.
7:409 Excitement of a flexible schedule, by Sister Elizabeth Ann Stock
7:412 Care of living organisms makes in-class projects, by H. Dean Jernigan
7:414 Ecology: statistics, politics, hysterics, by Paul R. Gastonguay
7:416 Independent-study methods and the gifted biology student, by John B. Simmons, William J. Davis, Gary C. Ramseyer, and James J. Johnson
7:419 Representational *vs.* analytic drawings in the laboratory, by Joyce K. Simpson and Jerry L. Gallentine
7:421 Techniques for rearing lacewings, by George D. Butler, Jr.
7:424 Eclectic method for preparing chromosome squashes, by Thomas P. Evans
7:427 Simulation techniques for counting cells, by David J. Kuhn
8:461 Origin of the idea of the nitrogen cycle, by Richard P. Aulie
8:472 Experiments in animal behavior, by James M. Polt
8:480 Anyone can start an AT biology program, by Walter Ballou and Theodore Filteau
8:484 Introductory ecology courses in colleges: a survey, by Thomas E. Mangum, III, and Thomas R. Mertens
8:489 Involving students in individualized instruction, by Jimmy R. Jenkins and James D. Russell
8:494 IPS as preparation for BSCS biology, by Byron P. Williams
9:521 Biologists look at the planet Mars, by Ronald Saltinski
9:526 Time-share computers in biology, by David J. Gerrick
9:528 Future of the oceanographic technician, by Martin D. Brown
9:532 Grafting in herbaceous stems, by B. John Syrocki
9:535 Incommensurability of evolution

COLORSLIDES
on the
BIOLOGY OF THE SEA
USE FOR STUDIES IN

- MARINE PLANTS
- MARINE ECOLOGY
- MARINE BIOLOGY
- GENERAL BIOLOGY
- ZOOLOGY

SEND FOR OUR FREE CATALOG

* * * * *

WESTERN MARINE LABORATORY
P. O. Box 4595
Santa Barbara, California 93103

SAN FRANCISCO
1972 NABT NATIONAL CONVENTION
OCTOBER 25-28 S.F. HILTON HOTEL
THEME: BIOLOGY AND EVOLUTION

Sensational New
MODEL 500 BIOSCOPE MICRO-PROJECTOR
QUARTZ IODINE LIGHTING SYSTEM
gives 100% more light and 70° less heat on the specimen.

- Microscope type triple nosepiece with 10X, 20X and 30X achromatic and coated objectives.
- 10X Eyepiece and special 4X projection ocular.
- Quartz Iodine Lamp, GE EKL-150 Watts, 21 Volts.
- 43X, 60X and even 100X objectives may be used on this instrument under proper conditions.
- Fine rack and pinion adjustment with knobs on both sides.
- Lifetime luggage type carrying case. Made of beautiful and indestructible high impact Kydex.

For complete information, write:

BIOSCOPE
MANUFACTIRING COMPANY
BOX 1492 TULSA, OKLA. 74101

and special creation, by James T. Robinson

9:539 Sea urchin development: an investigative exercise, by John C. Duran

9:542 New respirometer design, by Daniel J. Dyman and Jerry J. Nisbet

9:546 Evaluation of an institute for teachers of secondary-school biology, by David H. Ost

R—Reports

2:106 Films for environmental studies, by Lawrence R. Przekop

2:106 John Breukelman honored, by Jack L. Carter

2:107 Environmental-educational project, by Robert E. Roth

2:107 Respirometer for student use, by A. I. Schepartz and R. C. Schepartz

2:108 Automated Apparatus for Manual Tissue-Grinders, by Herbert K. Naito and David R. Griffith

3:172 Ephraim Laurence Palmer (1888–1970), by John Breukelman

3:173 Landscaping as a springtime project, by John David Whittington

3:173 Science students in the library, by Grace J. Tigani

3:174 Demonstration of Koch's postulates, by Ralph S. Hogue

3:175 Inexpensive vortex shaker, by Robert A. Grassmick

3:176 Flies like mashed potatoes, by John C. Coulter

3:176 Immobilizing organisms with UV, by Norman P. Gubber

5:292 Will summer science training programs continue?, by Leo Gross

5:293 Beer-can project, by Kenneth M. Highfill

5:293 Mealworms galore, by Jack Fletcher

5:294 Subversive science, by Harold J. McKenna

5:295 Study of the needs of high school biology teachers, by Carmine C. Sippo and Dale A. Yarns

5:295 Guarding your thermometers, by John H. Falk

6:355 In-service approach to the social implications of science, by Barbara Logan, O.S.B.

6:356 Sustained observation of chick embryos, by Bruce B. Criley

6:357 Senior scene in biology, by Sister Carolyn M. Capuano, HM

6:357 Producing black - and - white transparencies for teaching, by Robert E. Whitmoyer and E. Laurence Thurston

6:358 High school biology society, by Robert D. Egbert

6:359 Technique for obtaining slime molds, by William R. Sprague and Frank A. Einhellig

7:429 Ethology for the "now" generation, by Harold J. McKenna

7:429 Metric-system strategies, by John R. Carlock

7:430 On teaching meiosis and mendelism, by Thomas R. Mertens

7:431 Egregious locutions; or, horrors of style, by Sam Gadd

8:497 Refrigerator becomes environmental chamber, by R. Keith Turner

8:498 Method of action against polluters, by Harold J. McKenna

9:549 Tree-mendous idea, by Lynn M. France

9:549 Library as a mini-lab, by Constance Finnegan

9:550 Grid map as part of a field-note system, by Bayliss L. Prater

9:551 Slide-rack collector, by Claude B. Bonang

9:552 Closed-circuit television used for microprojection, by Robert P. Ward and John Syrocki

9:553 Teacher-education "guidelines" concerned with the intrinsic, by David H. Ost

9:554 Disposable bottles for fruit-fly cultures, by Frank H. Wilcox

9:554 Preparing herps skeletons, by Robert Patterson and Bayard H. Brattstrom

D—Devil's Advocate

2:110 Declaration of independence from science fairs, by E. Gibbes Patton

2:110 Fantastic(al) defense of -ic, by Sam Gadd

2:111 Is the "thread of life" a threat to science education?, by Clifford Bennett

3:177 Morality of science, by F. W. Smith, Jr.

4:239 Intellectual pollution, by David H. Ost

5:297 Chicken biologist, by Margaret M. Miller

9:555 Capitalism, science-teaching, and the environmental crisis, by James L. Mariner

L—Letters to the Editor

1:49 Evolution *vs.* special creation, by Ernst Mayr and by William V. Mayer

1:51 Enhancement-effect experiment, by D. M. Swan; comment by W. E. Rauser

2:112 Evolution *vs.* special creation, by Harlo H. Hadow

3:179 Living our commitments, by L. Jack Whitney

4:241 Book reviews disputed, by C. V. B. LaMotte and by Edith E. Selberg; comment by John T. Windell

5:300 Advertising policy and creationism, by Thomas J. Cleaver; comment by Jerry P. Lightner

5:301 More comments on special creation, by Frank Wing, by Ruth V. Holt, and by Mike Turnage

5:303 Educational-voucher plan, by Otto T. Bierwagen

6:361 In support of science fairs, by E. G. Shelburne, Jr.; comment by E. Gibbes Patton

6:362 Gish replies on creationism, by Duane T. Gish; comment by William V. Mayer

6:363 Biologic constructs, by Mario Bunge; comment by Ralph W. Lewis

9:556 Barriers between the disciplines, by Frank L. Ryan
9:556 Ode against dogmatism, by Ernest Nicol; comment by Thomas J. Cleaver

E—Editorials

• These are the "In My Opinion" pieces at the front of each issue. The author is Jack L. Carter.

1:2 Educational-voucher plan
2:66 Graduation vs. education
3:130 Interdisciplinary science courses
4:194 Teaching is our business
5:258 Education—stepchild of N.S.F.
7:386 Advanced-placement examinations
8:450 Accountable to whom?
9:514 Woman power

Auditioning Audiovisuals

Auditioning audiovisuals, reviews by staff members of the Audio-Visual Center of Indiana University, and others 2:113, 6:365

Book Reviews

• Authors and editors of the books (not the reviewers) are mentioned in parentheses preceding the issue-and-page reference.

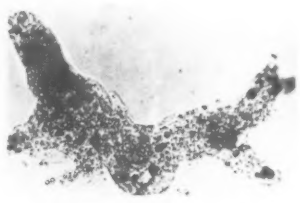
Academic degree structures (Spurr) 6:368
Academic gamesmanship (van den Berghe) 6:367
Advances in human genetics (ed. Harris and Hirschhorn) 2:117
All kinds of animals (Webb) 6:377
All sizes and shapes of monkeys and apes (Armour) 7:446
Anatomy and physiology (Evans) 9:564
Anatomy of the chordates (Weichert) 6:376
Animal behavior (Dethier and Stellar) 5:305
Animal behavior (Hinde) 1:53
Animal physiology (Schmidt-Nielsen) 5:313
Animals near and far (Hoover) 5:318
Animals of the Antarctic (Burton) 7:446
Animals without parents (Jenkins) 6L380
Antelopes (Bere) 7:444
Ants (Hoke) 2:124
Bailliere's atlas of female anatomy (Armstrong) 1:60
Basic biology (Elliott and Voeller) 1:55
Basic concepts in anatomy and physiology (Anthony) 5:316
Bats (Pye) 2:120
Behavioral objectives and instruction (Kibler *et al.*) 4:249
Behavior change process (Mink) 4:246
Being born (Strain) 6:379
Biochemistry (Lehninger) 6:366
Bioethics (Potter) 9:560
Biological clock (Brown *et al.*) 5:305
Biological principles and processes (Villee and Dethier) 9:564
Biological science: interaction of experiments and ideas (BSCS) 4:243
Biology (Case and Stiers) 8:508
Biology (ed. Moore and Slusher) 7:438
Biology and the social crisis (Brierly) 5:308
Biology of higher cryptogams (Doyle) 5:306
Biology of microorganisms (Brock) 1:58
Biology of plants (Raven and Curtis) 3:180
Biology of race (King) 8:505
Biology of the immune response (ed. Abramoff and La Via) 3:182, 5:311
Biology of the Porifera (ed. Fry) 5:316
Biology teacher's handbook (ed. Klinckmann) 1:54
Biology teacher's treasury of unit plans (Boyd) 9:558

WACO is The Source

Get your free copy of our new Educational Catalog

—over 200 pages of equipment, supplies and chemicals for the high school lab—chemistry, biology, general science.

WILKENS-ANDERSON COMPANY
4525 W. Division Street, Chicago, Illinois 60651
Please send the new Waco Educational Catalog to:
NAME
SCHOOL
ADDRESS
CITY STATE ZIP



Living material
Preserved material
Visual Teaching Slides
Dissecting equipment
Lab supplies

FAST service on all living cultures
All material unreservedly guaranteed

Write for free catalogue
CONNECTICUT VALLEY BIOLOGICAL SUPPLY CO., INC.
SOUTHAMPTON, MASS. 01073

INTEGRATED BIOLOGY fills the need for a concise and substantial *introductory biology* text appropriate for a single semester or quarter course for science students and biology majors. The book is sufficiently self-contained and readable to prove of interest to non-biology students who wish to understand more about their position in a living world that is coming under increasing biological pressures.

SOME KEY FEATURES:

* *Inventive new approach to teaching introductory biology: The physicochemical bases of major biological principles are presented with examples chosen from all levels of biological organization.*
* *Line drawings have been used exclusively for their instructional value and are superior in clarity to photographs.*
* *A (low cost) set of 35 mm color slides have been prepared exclusively for use with INTEGRATED BIOLOGY' These slides cover numerous topics which can be more effectively presented in lecture than on the printed page.*
* *The book is short enough to allow time in a single semester course for assignment of supplementary materials (short paperbacks, readings on current environmental issues, etc.)*

International Textbook Series
BARNES & NOBLE, PUBL.,
105 5th AVE., NEW YORK 10003

ITS Presents An Inventive Approach To Introductory Biology

INTEGRATED BIOLOGY
by Leonard Hill, Univ. of Sheffield, Dennis Bellamy, Univ. College, Cardiff; and I. Chester Jones, Univ. of Sheffield. Revised American edition prepared by Paul Paoline, Jr., San Diego State College. (Approx.) 400pp. $7.50 (Tent.)

Bionics (Silverstein and Silverstein) 5:317
Biophilosophy (Rensch) 7:438
Biosphere (Jessop) 6:374
Biosphere (ed. Scientific American) 8:500
Birth control (Hardin) 8:506
Black pioneers of science and invention (Haber) 5:310
Blue whale (Small) 9:562
Bobwhite quail (Rosene) 2:119
Botany (Weier *et al.*) 5:307
Buffalo (Haines) 4:254
Cell biology (Burke) 1:53
Cell biology (Kimball) 3:180
Cell fusion (Harris) 5:307
Cells (Cobb) 2:122
Cellular differentiation in plants, and other essays (Wardlaw) 6:367
Central concepts of biology (Baer *et al.*) 6:372
Children of Frankenstein (Muller) 6:370
Child's conception of movement and speed (Piaget) 6:368
Chordate structure and function (Waterman *et al.*) 7:444
Clarion the killdeer (Russell) 5:319
Classification and biology (Crowson) 1:56
Computer models in genetics (Fraser and Burnell) 2:116
Concepts of zoology laboratory manual (Winchester) 2:119
Concepts of zoology (Winchester) 3:185
Contemporary readings in behavior (Johnson) 5:305
Contemporary scene (ed. Weisz) 7:436
Control mechanisms in plant development (Galston and Davis) 5:306
Crab from yesterday (Waters) 6:378
Darwin and the Beagle (Moorehead) 1:56
Developing children's thinking through science (Anderson *et al.*) 4:245, 7:434
Developmental curriculum projects (Grobman) 9:559
Discovering what goldfish do (Simon) 6:379
Discovering your environment (Jones and Swan) 9:561
Eco-catastrophe (editors of *Ramparts*) 2:115
Ecocide in Indochina (Weisberg) 8:499
Ecological crisis (ed. Love and Love) 8:501
Effective college teaching (ed. Morris) 5:310
Egg to chick (Selsam) 6:380
Elephants and mammoths (Vevers) 2:120
Encyclopedia science supplement (ed. Kondo) 9:563
Entropy for biologists (Morowitz) 3:180
Environment, power, and society (Odum) 6:369
Eskimos (Martin) 2:121
Essentials of histology (Bevelander) 3:182
Ethology (Eibl-Eibesfeldt) 5:305
Eutrophication (National Academy of Sciences) 2:116
Every day is Earth Day (Podendorf) 9:561
Everyman's guide to ecological living (Cailliet *et al.*) 8:499
Evolution in perspective (ed. Shuster and Thorson) 8:501
Experimental biology (Norman) 6:374
Experimental microbial ecology (Aaronson) 2:115
Exploring ocean frontiers (Scott and Scott) 6:372
Exploring the ocean world (ed. Idyll) 5:311
Facts about sex (Gordon) 2:124
First and last experiments in muscle mechanics (Hill) 1:58

• New Service • No Fees

Current

COLLEGE VACANCIES

in

Biological Sciences

Published Fall, Winter, Spring
(Summer Supplement)

Nationwide coverage of universities, colleges, jr. colleges • indexed by state • complete description of salary, rank, responsibility.

SUBSCRIBE TODAY $18.00 PER YEAR

National Faculty Placement Bulletin

Name_____

Address_____

City_____ State_____ Zip_____

Send to:
O'Brien & O'Brien,
Educational Consultants
Dept. BT
P.O. Box 271, Buffalo, New York
14221

The National Association of **Biology Teachers**

1420 N STREET, N.W.
WASHINGTON, D. C. 20005

Dues of $10.00 enclosed for one calendar year NABT membership and ABT subscription.

NAME_____
(PLEASE PRINT)

MAILING ADDRESS_____

CITY_____

STATE_____

ZIP_____

First child (Wells) 6:378
First you catch a fly (Cunningham) 2:121
Flying birds (Urry and Urry) 3:186
Foundations of American education (Ragan and Henderson) 2:114
Fresh as a daisy, neat as a pin (Wise) 2:120
Friendly beast (Dröscher) 7:433
From instinct to intelligence (Kirshner) 1:53
From scrolls to satellites (Wise) 1:60
Future of science (Goran) 9:563
Gas chromatography in biology and medicine (ed. Porter) 8:507
General biology (Brown) 6:373
General botany manual (Lemon and Russell) 4:244
Genetics laboratory investigations (Gardner and Mertens) 2:117
Genetics of the evolutionary process (Dobzhansky) 6:369
Gerbils and other small pets (Shuttlesworth) 3:187
Glossary of mycology (Snell and Dick) 8:499
Good drug and the bad drug (Marr) 6:378
Gorillas (Groves) 6:377
Guide to the woody plants of the Mountain States (Treshow *et al.*) 8:499
Handbook on formative and summative evaluation of student learning (Bloom *et al.*) 7:434
Handful of soil (Simon) 2:122
Hermit crab lives in a shell (Stephens and Stephens) 1:60
Heroes of science (Shepherd) 6:380
Hidden sea (Smith and Faulkner) 6:372
High school 1980 (ed. Eurich) 4:250
History of the earth (Kummel) 6:370
How to know the freshwater algae (Prescott) 4:244
How to mount fish (Schmidt) 8:508
Human body in health and disease (Memmler and Rada) 2:118
Human design (Beck) 9:564
Human diversity (ed. Alland) 9:563
Human physiology (Vander *et al.*) 2:118
Human sexual development (Taylor) 6:371
Hunters and collectors (Kimble) 6:380
Hunting fossils (Keen) 2:118
Ideas and investigations in science (Wong and Dolmatz) 6:372
Immunology of transplantation (Billingham and Silvers) 9:563
Infectious disease of wild mammals (ed. Davis *et al.*) 7:442
Infinite river (Amos) 6:369
Insect hormones (Wigglesworth) 7:442
Integrated basic science (Brooks) 5:316
Introduction to college biology (Fitzpatrick) 6:375
Introduction to invertebrate endocrinology (Tombes) 3:185
Interaction of man & the biosphere (Abraham *et al.*) 4:243
Introduction to fungi (Webster) 9:558
Introduction to modern behaviorism (Rachlin) 7:433
Introduction to natural science, part 2: the life sciences (Parsegian *et al.*) 1:55
Introduction to plant biology (Arnett and Braungart) 5:306
Investigating your health (Miller *et al.*) 3:182
Invisible pyramid (Eiseley) 5:307
Ionizing radiation and life (Overmire) 4:254
Issues in American education (Kroll) 4:246
Kinds of mankind (Klass and Hellman) 8:505
Laboratory anatomy of the domestic chicken (Robinson) 4:254
Laboratory anatomy of the fetal pig (Odlaug) 4:254
Laboratory anatomy of the shark (Ashley) 4:254
Let's find out about the ocean (Knight) 2:124
Let's find out about trees (Arbor Day) (Shapp and Shapp) 1:60
Life in ponds (Gorvett) 8:508
Life of the jungle (Richards) 2:120
Light and living matter (Clayton) 6:367
Liquids (Lumsden) 5:318
Living lights (Silverstein and Silverstein) 2:122
Living with your land (Vosburgh) 9:560
Lizards as pets (Headstrom) 8:508
Lysenko affair (Joravsky) 8:502
Mammals of the sea (Silverstein and Silverstein) 8:510
Mammoths, mastodons, and man (Silverberg) 3:186
Man and the environment (Jackson) 8:500
Man and wildlife (Guggisberg) 5:308
Man's dominion (Graham) 7:435
Masculinity and femininity (Miller *et al.*) 7:435
Mathematical approach to physiological problems (Riggs) 2:119
Measurement and evaluation in the classroom (Nelson) 5:310
Mechanism of protein synthesis (ed. Frisch) 3:183
Methods in experimental embryology of the mouse (Rafferty) 1:59
Methods of study in natural history (Agassiz) 9:562
Microbial world (Stonier *et al.*) 5:312
Microbiological methods (Collins and Lyne) 8:506
Microbiology (Poindexter) 7:436
Microtechniques (Willey) 7:436
Mind and brain (Rosenblueth) 1:57
Molecular biology and the origin of species (Maxwell and Baker) 2:116
Molecular-genetic mechanisms of development (Medvedev) 3:184
Molecular genetics (Stent) 8:502
Molecules of life (Nass) 5:312
Morphology of vascular plants (Bierhorst) 7:433
Mysteries beneath the sea (Corliss) 6:372
Natural resources conservation (Owen) 9:561
Natural resources and public relations (Gilbert) 9:561

Nature's nursery (Hudson) 6:381
Nature study for conservation (Brainerd) 8:499
Night animals (Cohen) 3:187
Nonseed plants (Doyle) 1:53
Northwest Passage, from the Mathew to the Manhattan (Keating) 1:57
Oceanography (Rabinowitz *et al.*) 5:311
Oldest man in America (Kirk) 7:446
On the theory of achievement test items (Bormuth) 9:559
Organization of heredity (Lewis and John) 5:310
Our precarious habitat (Benarde) 4:250
Papers on genetics (ed. Levine) 8:502
Parasitism and symbiology (Read) 1:56
Patterns of life (ed. BSCS) 5:314
Person in the womb (Berrill) 9:563
Physics for biology and premedical students (Burns and MacDonald) 6:374
Pictorial guide to the birds of North America (Rue) 1:59
Place to live (Bendick) 1:60
Plague killers (Williams) 6:371
Plant cell physiology (Nobel) 6:367
Plant kingdom (Bold) 2:114
Plants and civilization (Baker) 2:114
Plant speciation (Grant) 9:558
Platyhelminthes and parasitism (Burt) 6:376
Population and food (ed. Leisner and Kormondy) 9:561
Principles and methods of plant biosystematics (Solbrig) 2:114
Primary anatomy (Basmajian) 1:58
Principles of animal physiology (Wood) 6:376
Principles of biosystematics (Lines and Mertens) 5:315
Process of biology (ed. Baker and Allen) 5:314
Programmed biology series (ed. Bond) 1:54
Programmed skills for biology laboratories (Giglio) 5:316
Quantitative analysis of structure in teaching (Anderson) 9:560
Race and races (Goldsby) 8:506
Radiation and its use in biology (Mayer) 4:252
Reaching the disadvantaged learner (ed. Passow) 5:308
Respiration and circulation (ed. Altman and Ditmer) 8:507
Retirement systems of the American teacher (Schmid) 9:559
Rocky shore (Kingsbury) 7:446
Seaweeds and their uses (Chapman) 5:306
Scaly wings (Hutchins) 7:445
Schooling for what? (Parker) 5:309
Science and secularity (Barbour) 6:371
Secret life of the forest (Ketchum) 6:369
Seeds, embryos, and sex (Cosgrove) 8:510
Sexes (Carr) 7:436
Sir Christopher Wren (Gould) 5:311
Source book in animal biology (Hall) 6:377

Mogul-ED™

THE PRIMARY SOURCE OF SUPPLY
...FOR TEACHING: BIOLOGY

Mogul-ED . . . now a consolidated source which identifies a group of established companies with over 60 years of quality, economy, and service.

Mogul-ED products include live animals, biological materials, and our famous DI/SEKTO preserved animals.

DI/SEKTO . . . THE ODORLESS, NON-TOXIC, PRESERVATIVE THAT MAKES STANDARD FORMALIN PRESERVATIVES OBSOLETE.

MAIL TODAY FOR 155-PAGE CATALOG

Mogul-ED LABORATORY PARK
CHAGRIN FALLS, OHIO 44022

Name _____
School _____
Street _____
City, State, Zip _____

Spectrum of life (Moore and Carlock) 5:313
Squirrels of North America (MacClintock) 2:119
Steven and the green turtle (Cromie) 2:124
Strategies for planner curricular innovation (ed. Lawler) 7:434
Strategy for education (Epstein) 4:244
Students and decision-making (Marison) 5:309
Summerhill: for and against (ed. Hart) 4:246
Symbiosis (Cheng) 5:314
Teaching as a subversive activity (Postman and Weingardner) 1:54
Textbook of immunology (Barrett) 6:374
That remarkable creature, the snail (Schisgall) 2:121
To improve learning (Commission on Instructional Technology) 7:433, 9:558
Topics in the study of life (a "panel of consultants") 8:508
Toward a history of geology (ed. Schneer) 4:251
Towards a theoretical biology (ed. Waddington) 6:366
Transcription of the genetic material (Cold Spring Harbor Symposia) 6:370
Turtles and their care (Hoke) 3:184
Two children by choice (Rossman) 6:371
Vandals wild (Bennett) 2:116
Vertebrate pests (Subcommittee on Vertebrate Pests [etc.]) 7:442
Wanderings of a biochemist (Lipmann) 9:558
Wasps (Evans and Eberhard) 5:317
Weed control (National Academy of Sciences) 7:433
What we find when we look at molds (Gray) 4:318
Why you get sick and how you get well (Goldsmith) 7:445
Wild bird world (Colby) 2:124
Wildlife rescue (Graham and Graham) 1:60
Wonders of the fly world (Lavine) 5:319
Wonders of the world of wolves (Berrill) 5:319
Woodland animals (Smith) 6:376
Year of the seal (Scheffer) 5:318
Young people's science encyclopedia (National College of Education) 6:379
Young scientist and the doctor (Barr) 1:60
Your skin (Hyde) 6:380
Your world—your survival (Warner) 6:381

SOCIAL IMPLICATIONS
OF BIOLOGICAL EDUCATION

Edited by
Arnold B. Grobman

Teachers and students of life sciences are forced to consider the social implications of biology. The important issues can not be avoided and deserve a full and balanced discussion.

Recognizing this need, the National Association of Biology Teachers invited distinguished biologists to address themselves to a variety of social issues. The result has been a volume ideally suited as a resource for class discussion and as a reference for the teacher of either life sciences or humanities.

The volume includes chapters on the social implications of . . .

Medicine
by Michael and Lois DeBakey

Behavior
by James V. McConnell

Genetics
by Bruce Wallace

Population
by Garrett Hardin

Evolution
by Claude A. Welch

Additional statements are given by Vincent Dethier, Martin Schein, Haven Kolb, David Denker, Lawrence Mann and others. This book is available now from the National Association of Biology Teachers for only $1.95.

NABT
1420 N Street, N.W.
Washington, D. C. 20005

NABT 1420 N Street, N.W., Washington, D. C. 20005.

Please mail _____ copies of Social Implications of Biological Education at $1.95 per copy.

☐ Payment Enclosed ☐ Bill Me

Name _____

Address _____

_____

City _____ State _____

Zip _____

AUTHORS

• For a title, please refer by letter (**A, R, D, L, E**) to the appropriate section of the TITLE index; except that **B** (book review) refers you direct to the page of the journal. (You may of course go direct to the journal from any number.)

Abramoff, Peter B 3:182
Adams, William H. A 5:270
Anderson, Nancy A. B 9:560
Anderson, Ronald D. B 6:368
Andrews, Ted F. B 5:316, 9:563
Arrendondo, Daisy E. A 7:401
Aulie, Richard P. A 8:461, B 1:56, 4:250
Baker, William T. B 2:120
Ball, Hayward B 5:315
Ballou, Walter A 8:480
Balzer, LeVon A 4:220, B 5:310, 9:559
Barthelemy, Richard E. B 2:121, 3:187
Bass, J. Carl B 6:380
Behnke, Frances L. B 1:60, 2:120, 2:121, 6:380, 7:446
Behnke, John A. B 4:250
Beidleman, Richard G. B 5:308
Bennett, Clifford D 2:111
Bennett, Lloyd M. B 2:122, 2:124
Benson, Bernard W. B 5:310
Bermant, Gordon A 3:167
Bermant, Roberta M. A 3:167
Berry, John M. A 6:345
Biederman, Arthur A. B 5:308
Bierwagen, Otto T. L 5:303
Bingman, Richard M. B 4:246, 4:249
Blazier, Richard A 4:228
Bock, Jane H. B 4:244, 6:369
Bodine, Kathleen B 6:377, 6:378
Bonang, Claude B. R 9:551
Borko, Martin B 8:499
Boylan, Laurence C. B 6:369
Bradley, Richard C. B 6:374
Brattstrom, Bayard H. R 9:554
Breukelman, John R 3:172
Brown, Paul L. B 7:436
Brown, Martin D. A 9:528, B 6:372
Brunge, Mario L 6:363
Brunson, Linda K. A 2:100
Bruzan, Raymond A 6:339
Burton, Daniel F. B 7:433
Butler, George D., Jr. A 7:421
Capuano, Sister Carolyn M., HM R 6:357
Carlock, John R. R 7:429
Carter, Jack L. R 2:106, E 1:2, 2:66, 3:130, 4:194, 5:258, 6:322, 7:386, 8:450, 9:514
Christensen, C. L. A 2:98
Clarke, Robert F. B 5:314
Cleaver, Thomas J. L 5:300, 9:557, B 2:114, 5:309, 9:558
Cole, Thomas A. B 6:366
Collins, O'Neil Ray B 5:307, 8:499
Connell, Sister Rosemary, C.S.J. B 6:374, 9:563
Cooper, Jean E. B 5:308, 5:311
Coulter, John C. R 3:176
Creager, Joan G. A 3:163
Criley, Bruce B. R 6:356
Cripps, Erik A 1:29
Daniel, Paul M. B 1:58, 7:444
Davis, Bill D. B 6:366
Davis, Millard C. A 5:280
Davis, William J. A 7:316
Davison, Elizabeth J. B 5:318, 6:376
Dawson, George O. B 1:55, 5:313
DeMar, Robert E. B 3:186
Dodge, Richard A. B 9:559
Drexler, Henry E., Jr. B 7:444, 9:558
Dunn, Richard H. B 5:314
Duran, John C. A 9:539
Durst, Harold B 4:252
Dustman, John H. B 3:185
Dyar, Nancy A 1:26
Dyman, Daniel J. A 9:542
Egbert, Robert D. R 6:358
Ehrle, Elwood B. A 3:163
Einhellig, Frank A. R 6:359
Enochs, N. Jean B 5:310
Evans, David B 1:57
Evans, Thomas P. A 7:424, B 5:309, 5:316
Falk, John H. R 5:295
Fiel, Ronald L. B 6:379
Filteau, Theodore A 8:480
Finch, Peggy B 2:116
Finnegan, Constance R 9:549
Fletcher, Jack R 5:293
Fishleder, Jack B 4:245, 8:499
Follansbee, Harper 6:365 (Audiovisuals)
Forbes, Robert A. B 6:371
Fortman, Jon R. B 5:316, 7:435
France, Lynn M. R 9:549
Fulton, Harry F. A 5:277
Gadd, Sam R 7:431, D 2:110, B 1:59, 2:119, 3:186
Galen, Donald F. A 4:237
Gallentine, Jerry L. A 7:419
Gastonguay, Paul R. A 7:414
Gerrick, David J. A 9:526
Gill, Glenn W. A 6:351
Gish, Duane T. L 6:362
Glass, Bentley A 3:145, 5:265
Glazer, Richard B. B 6:371
Gleason, Frank H. B 1:58
Grassmick, Robert A. R 3:175
Greene, Kingsley L. B 9:561
Grimm, Floyd M. A 6:348
Griffith, David R. R 2:108
Grobman, Hulda A 2:86, B 7:434, 9:559
Gross, Leo R 5:292
Gubber, Norman P. R 3:176
Gunstream, Stanley E. A 4:226
Gustafson, Alton H. A 5:282, B 5:306
Hadow, Harlo H. L 2:112
Hagerman, Howard H. B 2:119, 7:433
Haman, A. C. B 7:445
Hamilton, John M. B 1:53, 1:58, 1:60, 9:561
Hanson, Earl D. B 5:310
Hathaway, Ronald P. B 6:376, 7:436
Hartman, Emily L. B 5:306
Heal, Fred A. B 2:118
Heim, Werner G. B 1:59, 2:116, 2:117, 3:180, 6:369, 6:370
Held, Tom 2:113, 6:365 (Audiovisuals)
Henzlik, Raymond E. B 1:53, 2:119, 5:313, 5:964
Heward, Lester B 2:114
Highfill, Kenneth M. R 5:293
Hirokawa, Sueko B 6:381
Hogue, Ralph S. R 3:174
Holden, David J. A 2:91
Holt, Ruth V. L 5:302
Holton, Raymond W. B 6:367

Horine, Randall K. B 5:312
Horton, James C. B 9:561
Howard, James R., III A 6:342
Howard, Walter E. A 3:149
Huisingh, Donald A 6:348
Hulbary, Robert L. B 2:114, 7:433
Hurd, Paul DeHart A 7:397
Hurlburt, Evelyn M. A 3:161, 5:273
Jantzen, Paul G. B 9:563
Jenkins, Jimmy R. A 8:489
Jerkins, Kenneth F. B 2:118
Jernigan, H. Dean A 7:412
Johnson, James J. A 7:416
Julian, Gordon R. B 9:558
Kathan, Ralph H. B 3:183, 5:311
Kidd, David E. B 9:562
Klinge, Paul B 1:54, 2:120, 6:370, 6:372, 6:379, 7:436
Koch, Rudy G. B 2:120, 6:379, 6:380, 7:446
Koevenig, James L. B 4:243
Kolb, Haven A 4:214, B 2:115
Komiak, Josephine M. A 3:155
Koran, J. J. Jr. A 1:38, 7:405
Kormondy, Edward J. A 1:15, B 7:435
Kuhn, David J. A 7:427
LaMotte, C. V. B. L 4:241
Lanham, Url B 4:254
Lawson, Chester A. A 1:22
Layton, E. Miller, Jr. B 3:180
Lee, Addison E. A 2:79
Leim, Karel F. B 4:254
Leisman, Gilbert A. B 5:306
Lesh, Georgia E. B 3:185
Levin, R. A. B 7:436
Lewis, Ralph W. A 4:205, L 6:364
Liebherr, Harold G. B 6:372, 9:561
Littlefield, Robert D. B 5:317, 6:371
Llewellyn, Gerald C. A 4:232
Logan, Barbara, O.S.B. R 6:355
Lotz, Janet A 2:94
Mallon, Elizabeth J. B 6:372
Mangum, Thomas E., III A 8:484
Mariner, James L. D 9:555, B 2:116, 7:438
Mason, Donald E. B 2:118
Mason, Herbert J. A 3:165
Mayer, William V. L 1:50, 6:363, B 2:119, 5:307, 9:564
Mayr, Ernst L 1:49
McBurney, Wendell F. B 7:441
McCain, Jim B 7:442
McGlathery, Glenn B 1:60, 2:122, 2:124, 6:378, 6:380, 7:445, 9:561
McKenna, Harold J. R 5:294, 7:429, 8:498
Medve, Richard J. B 1:55, 2:115, 6:377
Menhusen, Bernadette R. B 2:114
Mentzer, Dean S. A 2:103
Mertens, Thomas R. A 1:33, 2:94, 8:484, R 7:430, B 4:244, 9:563
Miller, Margaret M. D 5:297
Milstead, William W. B 4:246, 9:560
Monson, Paul H. B 6:374, 9:558
Moulton, James M. B 9:562
Myers, Gerald A. B 6:367
Naito, Herbert K. R 2:108
Neal, Louise A. B 1:60
Nicol, Ernest L 9:556
Nilson, Lawrence A 1:26
Nisbet, Jerry J. A 1:33, 9:542
Novak, Alfred B 5:307, 6:367
Novak, Joseph D. B 7:433
Nutting, William B. A 5:282

The microscope race is to the **Swift . . .**

SWIFT *Quodlibet*® SYSTEM OF PHASE CONTRAST!

Vibrant, living specimens in full natural color spark the student's interest and enthusiasm when he views the micro world through Swift Quodlibet. Phase contrast "optically" stains the specimen by passing light from the illuminator through a phase annulus attached to the disc diaphragm of the Quodlibet, separating central from outer light rays. Sensibly priced, the superbly engineered Quodlibet provides such features as rugged, heavy duty stand inclinable to 90° . . . rack and pinion coarse adjustment, with patented clutch and tension controls to protect precision gears . . . lever type fine adjustment . . . large stage plate 4½" x 4¾" . . . built-in condenser N.A. 0.65 with disc diaphragm and Quodlibet phase annulus . . . widefield 10x eyepiece with pointer standard (other types and magnifications available) . . . brightfield at 40x, 100x, and 400x . . . Quodlibet phase contrast at 100x and 400x, darkfield at 40x . . . coated optics to increase light transmission . . . retractable 40x objective to prevent slide damage . . . stage clips locked to stage plate . . . built-in illuminator of all metal construction with heavy duty, approved 3-wire power lead . . . full size 13" height, 8¾ lbs. weight . . . finished in epoxy-ester-resin, acid and reagent resistant, in modern Swift brown. Priced under $104.00 in quantity.

Write or call today for literature and name of your nearest Swift dealer for a demonstration.

SWIFT INSTRUMENTS, INC.
Technical Instrument Division
SAN JOSE, CALIFORNIA 95106 • 408/293-2380

SWIFT AGENCIES throughout the U.S. and in South Africa, Australia, Belgium, Canada, Denmark, England, Finland, Holland, Ireland, Korea, Italy, Lebanon, Malaya, Mexico, Nepal, Norway, East Pakistan, West Pakistan, Sweden, Thailand.

O'Kelley, Frank M. B 6:367
Olive, John H. A 1:46
Orr, Alan R. B 5:306
Ost, David H. A 9:546, D 4:239, R 9:553
Patterson, Robert R 9:554
Patton, E. Gibbes D 2:110, L 6:361
Polt, James M. A 8:472
Prater, Bayliss L. R 9:550
Price, Jeff B 5:312
Price, Linda Havighurst B 5:305
Przekop, Lawrence R. R 2:106
Ramseyer, Gary C. A 7:416
Rasmussen, Fred A. B 1:54
Rauser, W. E. L 1:52
Redfearn, Paul L. Jr. B 1:53
Reed, S. Arthur B 5:311
Rhines, Karin L. B 9:563
Rickson, Fred B 3:180
Robinson, James T. A 9:535, B 1:57, 7:438
Romey, William D. B 4:251, 6:370
Rosenthal, Gerson M., Jr. B 2:116, 6:369
Roth, Robert E. R 2:107
Russell, James A 8:489, B 2:124
Ryan, Frank L. L 9:556
Salisbury, Frank B. A 6:335
Saltinski, Ronald A 9:521
Sample, Judith B 1:53
Sanders, Robert R. B 7:442
Sayre, R. M. A 2:100
Schepartz, A. I. R 2:107
Schepartz, R. C. R 2:107
Schlesinger, William H. A 4:211
Schleicher, Sister Jeanne d'Arc B 2:117
Selberg, Edith M. L 4:241
Severin, Brother Charles B 4:244

Sherburne, E. G., Jr. L 6:361
Sherman, Jack E. B 1:54, 5:318, 5:319
Silkey, Sister M. Eunice B 4:254
Simmons, John B. A 7:316
Simpson, Joyce K. A 7:419
Sippo, Carmine C. R 5:295
Smith, F. W., Jr. D 3:177
Smith, Walter Scott B 6:380
Sprague, William R. R 6:359
Stabler, R. M. B 1:56, 7:442
Stees, Nancy E. A 5:289
Stock, Sister Elizabeth Ann A 7:409
Stotler, Donald A 1:18
Straus, Lorna P. B 5:316
Stronck, David R. A 6:331
Sullivan, Frank L. B 7:434
Swan, D. M. L 1:51
Syrocki, B. John A 9:532, R 9:552
TePaske, E. Russell B 5:305
Thaggard, William R. B 8:499
Thomas, Kenneth J. B 6:369
Thomerson, Jamie E. A 1:43
Throm, Samuel H., Jr. A 7:401
Thurston, E. Laurence R 6:357
Tiffany, Lois H. B 9:558
Tigani, Grace J. R 3:173
Turnage, Mike L 5:303
Turner, R. Keith R 8:497
Tyrell, Robert M. 6:365 (Audiovisuals)
Vessel, M. F. B 6:381
von Ahlefeldt, Alan R. B 2:121, 5:317
von Ahlefeldt, Ruth B 3:184, 3:187, 5:318
von Blum, Warren P. A 4:208
Voss, Burton E. B 7:434
Vuke, George 2:113, 6:365 (Audiovisuals)
Wallner, Stephen J. A 2:91
Ward, Robert P. R 9:552
Washington, George C. B 2:122
Watson, Margaret L. B 6:376, 9:564
Weber, William A. B 8:499
Weigand, James B 4:246
Weinberg, Stanley L. B 3:182, 4:243
Welch, Claude A. B 6:371
Westfall, Jonathan J. B 1:56
Whitmoyer, Robert E. R 6:357
Whitney, L. Jack L 3:179, B 3:182
Whittington, John David R 3:173
Wilcox, Frank H. R 9:554
Williams, Byron P. A 8:494
Williams, Olwen B 5:305, 7:433
Windell, John T. L 4:241
Wing, Frank L 5:301
Wise, Donald L. B 6:374
Withers, John D. B 6:375
Woodward, Val B 3:184
Woolever, John D. B 5:311, 5:314
Wilder, Clark B 1:60
Wislinsky, Betty B 1:60
Wright, A. Gilbert B 5:319, 7:435
Yager, Robert E. B 9:560
Yarns, Dale A. R 5:295
Young, Darrell D. A 5:286
Younggren, Newell A. B 6:373
Zottoli, Robert A 5:282

STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION

(Act of August 12, 1970: Section, 3685 Title 39, United States Code)

1. Date of Filing—16 September 1971. 2. Title of Publication—The American Biology Teacher. 3. Frequency of Issue—Monthly except June, July and August. 4. Location of Known Office of Publication *(Street, city, county, state, ZIP code) (Not printers)*—Interstate Printers, 19 North Jackson, Danville, Illinois 61834
5. Location of the Headquarters or General Business Offices of the Publishers *(Not printers)*—Natl. Assn. Biol. Tchrs., 1420 N Street, N.W., Washington, D.C. 20005
6. Names and Addresses of Publisher, Editor, and Managing Editor—
   Publisher *(Name and address)*—Natl. Assn. Biol. Tchrs., 1420 N Street, N.W., Washington, D.C. 20005
   Editor *(Name and address)*—Jack L. Carter, Dept. of Biology, Colorado College, Colorado Springs, CO 80903
   Managing Editor *(Name and address)*—Jerry P. Lightner, NABT, 1420 N Street, N.W., Washington, D.C. 20005
7. OWNER *(If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address as well as that of each individual must be given.)*
   Name—Natl. Assn. Biol. Tchrs. Address—1420 N Street, N.W., Washington, D.C. 20005
   (No stockholders—NABT is Non-Profit Educ. Assn. with IRS 501 (c) (3) Tax Exemption)
8. Known Bondholders, Mortgagees, and Other Security Holders Owning or Holding 1 Percent or More of Total Amount of Bonds, Mortgages or Other Securities *(If there are none, so state)*—NONE
9. For Optional Completion by Publishers Mailing at the Regular Rates *(Section 132.121, Postal Service Manual)* 39 U. S. C. 3626 provides in pertinent part: "No person who would have been entitled to mail matter under former section 4359 of this title shall mail such matter at the rates provided under this subsection unless he files annually with the Postal Service a written request for permission to mail matter at such rates."
   In accordance with the provisions of this statute, I hereby request permission to mail the publication named in Item 1 at the reduced postage rates presently authorized by 39 U. S. C. 3626.
   (Signature and title of editor, publisher, business manager, or owner)
10. For Completion by Nonprofit Organizations Authorized to Mail at Special Rates *(Section 132.122, Postal Manual)*—The purpose, function, and nonprofit status of this organization and the exempt status for Federal Income tax purposes have not changed during preceding 12 months.
11. Extent and Nature of Circulation

	average no. copies each issue during preceding 12 months	actual number of copies of single issue published nearest to filing date
A. Total no. copies printed *(Net Press Run)*	14,570	13,781
B. Paid Circulation		
1. Sales through dealers and carriers, street vendors and counter sales	0	0
2. Mail subscriptions	12,661	12,688
C. Total paid circulation	12,661	12,688
D. Free distribution by mail, carrier or other means		
1. Samples, complimentary, and other free copies	1,310	740
2. Copies distributed to news agents, but not sold	0	0
E. Total distribution *(Sum of C and D)*	13,971	13,428
F. Office use, left-over, unaccounted, spoiled after printing	599	353
G. Total *(Sum of E & F—should equal net press run shown in A)*	14,570	13,781

I certify that the statements made by me above are correct and complete.—Jerry P. Lightner *(Signature)*

XUM